

# CLIMATE ACTION TEAM

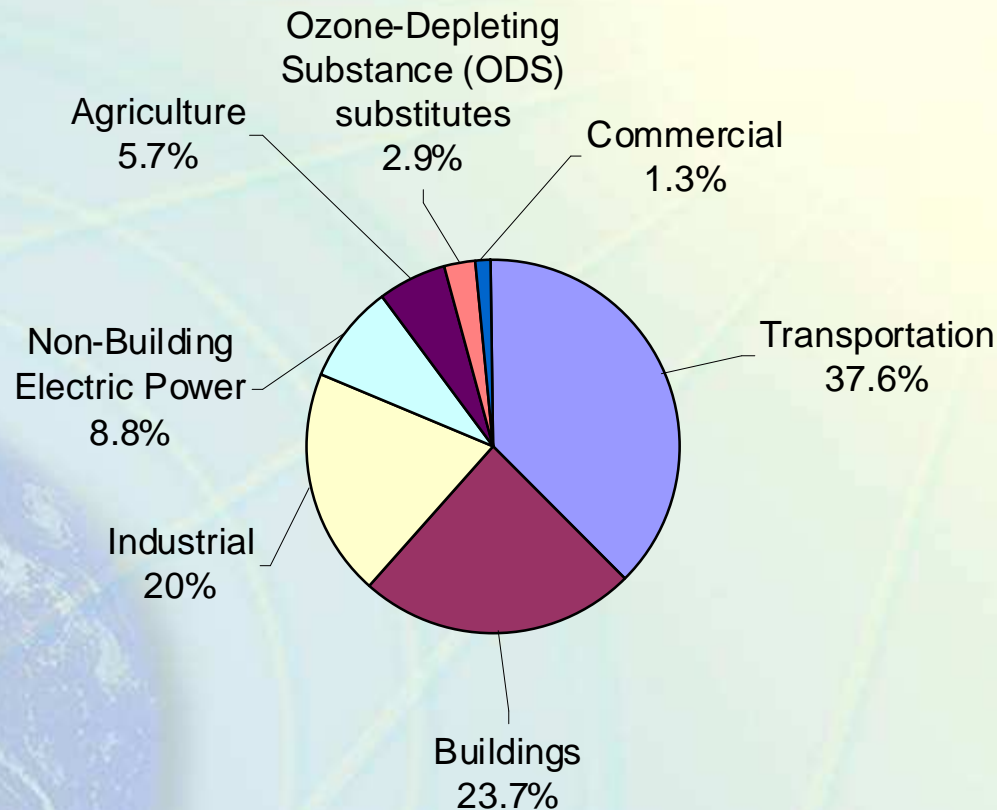
## GREEN BUILDING MEASURES



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May 2, 2008

# 25% of GHG Emissions Attributable to Buildings

## California GHG Emissions



2004 California GHG Inventory [ 480 MMT CO<sub>2</sub> e]

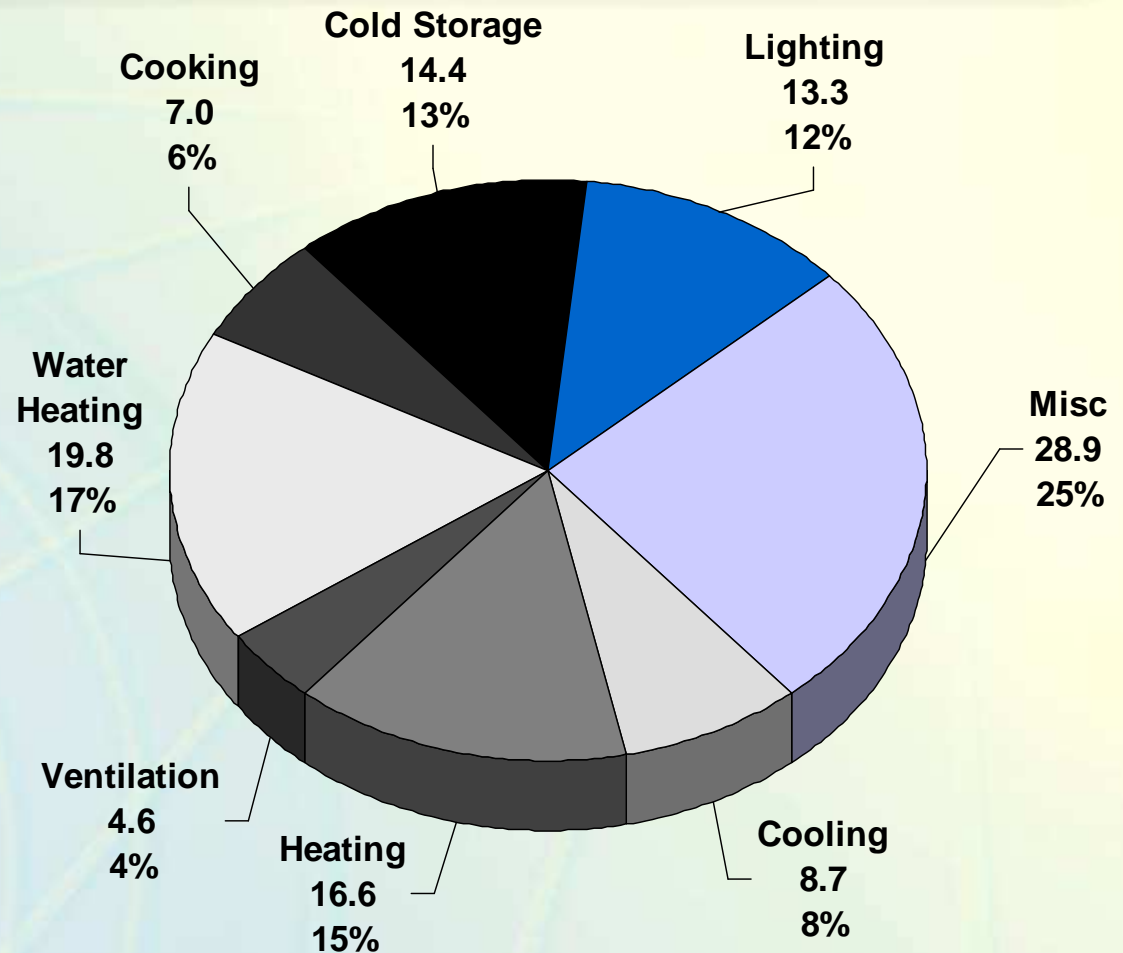
# How Buildings Contribute to Greenhouse Gas Emissions

- **Electricity Usage**
- **Fuel Combustion**
- **Water Consumption**
- **Solid Waste Disposal**
- **Construction & Demolition**
- **Building Material Manufacturing**
- **Transportation**



# California Building GHG Emissions Breakdown

- Electricity & gas use in buildings: 23.7% of GHG inventory
- Existing buildings: 90% of these emissions



Emissions in MMTCO<sub>2</sub>e



# The Challenge

- Existing buildings offer greatest potential for impact
- Retrofitting of existing buildings is needed to reach GHG targets
- Transportation impact (VMT) is also important
- Potential unfunded mandates are a concern

# Potential Actions

- State to Lead by Example
- Regulatory Action
- GHG Reporting for Building Sector
- California Green Building Standards Code
- 3<sup>rd</sup> Party Rating Certification Systems to Exceed Minimum Code
- Financing/funding mechanisms
- Incentives (financial and non-monetary)

# Potential Implementation Approaches - Education/Awareness

- Education and Training programs
  - Green collar jobs
  - Mandatory coursework
- Awareness programs
  - Flex Your Power
  - Media campaigns
- Green Building Appraisers
  - Place value on green features
- Utility technical assistance programs
- Targeted outreach programs

# Potential Implementation Approaches - Incentives

- Financial
  - Grants
  - Rebates/buy downs
  - Pay as you save
  - Low cost loan programs and/or on-bill financing
  - Fee waivers
  - Tariffs
  - Tax incentives
  - Carbon trading
- Non-monetary
  - New building design assistance
  - Expedited permitting
  - Certifications (ie. “California Gold” building certification/placard)
  - Awards/Recognition



## Potential Implementation Approaches - Mandates

- Exceed Green Building Executive Order policy for public buildings
- California Green Building Codes for all occupancies
- Energy audits and disclosure requirements for private buildings
- Upgrades/retrofits for existing buildings – voluntary/mandatory? Criterion?
- Other?

## Additional Information

- ARB Climate Change Web Site – list serve
  - [www.arb.ca.gov/cc/cc.htm](http://www.arb.ca.gov/cc/cc.htm)
- California Climate Change Portal
  - [www.climatechange.ca.gov](http://www.climatechange.ca.gov)
- ARB/agency contacts
  - [www.arb.ca.gov/cc/contacts/contacts.htm](http://www.arb.ca.gov/cc/contacts/contacts.htm)
- **Green California Website**
  - [www.green.ca.gov](http://www.green.ca.gov)